

US EPA ARCHIVE DOCUMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF	)	APPROVAL TO TREAT
	)	
HYDRODEC OF NORTH	)	AND COMMERICALLY
AMERICA, LLC	)	
	)	STORE POLYCHLORINATED
2021 STEINWAY BOULEVARD, SE	)	
	)	BIPHENYLS (PCBs)
CANTON, OHIO 44707	)	
	)	
OHR000143263	)	

AUTHORITY

This approval is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act (TSCA), and the Federal Polychlorinated Biphenyls (PCB) Regulations, 40 Code of Federal Regulations (CFR) Part 761.

Failure to comply with the approval conditions specified herein shall constitute a violation of 40 CFR (§) 761.60(e), 761.65(d) and 761.50(a) and may also be a violation of other provisions of the PCB regulations in 40 CFR part 761. A violation of the regulations is a prohibited act under Section 15 of TSCA.

The U.S. Environmental Protection Agency (EPA) Headquarters Delegation 12-5 authorizes the re-delegation of approval authority for PCB storage and disposal approvals from Regional Administrators to Regional Division Directors. Under the EPA Region 5 Delegation 12-5, dated July 15, 2014, the approval authority for PCB storage and disposal approvals was delegated from the Regional Administrator to the Director, Land and Chemicals Division (LCD), EPA Region 5.

SUMMARY AND FINDINGS

Background information, process descriptions, demonstration test result summaries, and the EPA's findings related to this approval are included in Appendices I through III.

Hydrodec of North America, LLC (Hydrodec) is the owner and operator of the hydro-treatment unit which is designed to non-thermally destroy PCBs in contaminated mineral oil dielectric fluid (MODEF), hereafter referred to as "oil", and produce oil product suitable for sale. The EPA has carefully assessed Hydrodec's operations, and has audited and observed a demonstration of the PCB treatment system's capabilities and efficiency. The EPA finds that Hydrodec's PCB treatment system, when treating oil containing PCBs in accordance with the applicable federal PCB regulations and in accordance with the conditions of this approval, provides PCB

destruction equivalent to an approved TSCA incinerator, as required by § 761.60(e) and will not present an unreasonable risk of injury to health or the environment.<sup>1</sup>

EFFECTIVE DATE

This approval to operate is effective upon signature by the EPA Region 5 Director of LCD and shall expire five (5) years from the date of signature unless otherwise specified in Condition 21.

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<sup>1</sup> The regulations at § 761.60(e) allow for the destruction of PCBs using methods other than incineration, provided the alternative method can achieve a level of performance equivalent to an incinerator approved under § 761.70 or a high efficiency boiler operating in compliance with § 761.71. The level of performance for non-thermal destruction is measured differently than for thermal methods. It is the Agency's policy that non-thermal methods operating under § 761.60(e) that destroy PCBs to < 2 ppm meet an equivalent level of performance to an incinerator approved under § 761.70 or a high efficiency boiler operating in compliance with § 761.71. See Draft Guidelines for Permit Applications and Demonstration Test Plans for PCB Disposal by Non-Thermal Alternative Methods, August 21, 1986.

## DEFINITIONS AND ACRONYMS

Definitions found in § 761.3 apply unless otherwise noted below.

"Application" means all data and materials upon which the EPA based its decision to approve Hydrodec's PCB treatment system and commercial storage areas, e.g., information submitted to the EPA by Hydrodec to define, represent, or describe proposed testing protocols, proposed design and operations, and operational limits of the PCB treatment system. This includes the request for approval required by § 761.60(e) and § 761.65(d) and such data and materials submitted in relation to both the demonstration and operating approval applications. This includes Hydrodec's "PCB Alternative Treatment Permit Application," revision 2, dated June 16, 2017, and "PCB Storage Permit Application," revision 2, dated June 16, 2017.

"Batch" means a cycle of continuous operation of the PCB treatment system consisting of start-up, treatment, and decontamination stages.

"Closure" means the cessation of the use of a subject facility, and activities undertaken to secure the facility and control, minimize or eliminate the threat to human health and the environment from the facility. General closure requirements for PCB commercial storage facilities are set forth in the TSCA regulations at § 761.65(e).

"Closure Plan" means written plan for achieving proper closure of a subject facility. The closure plan identifies the steps that the owner or operator of the facility shall take to close the PCB wastes treatment and storage facility in a manner that eliminates the potential for post-closure releases of PCBs which may present an unreasonable risk to human health or the environment. Closure plan requirements for PCB commercial storage facilities are set forth in the TSCA regulations at § 761.65(e).

"Data" means: (a) a formal report from a chemical analysis laboratory; or (b) appropriate chemical instrument print outs from a chemical instrument that have appropriate controls, standards, and written instrumental operating parameters and conditions. Technical judgment or experience is not considered analytical data.

"Day" means a calendar day, unless otherwise specified.

"Director" means the Director, Land and Chemicals Division, EPA Region 5.

"EPA" means the United States Environmental Protection Agency, Region 5.

"Facility" means all contiguous land and structures (such as a single manufacturing plant) at which Hydrodec's PCB treatment system disposal and storage operations are conducted.

"Hydrodec" means Hydrodec of North America, LLC.

"LCD" means Land and Chemicals Division.

"Lost-time injury" or "lost workday injury" means an injury related to the operation of Hydrodec's PCB treatment system which results in an employee not performing his/her normal assignments during the workday and/or any successive workday following the day of injury.

"Major modification" means any change to capacity, design, operations, or any other changes significantly affecting, or having the potential to significantly affect, overall PCB destruction efficiency, performance, or environmental impact of Hydrodec's PCB treatment system or storage.

"Minor modification" means administrative and informational changes, correction to typographical errors, changes to conform with agency guidance or regulations, or any other change which does not affect the overall performance or environmental impact.

"MODEF" means mineral oil dielectric fluid.

"Oil" is used in this approval to mean mineral oil dielectric fluid or MODEF.

"Operations" means the process of treating PCBs  $\geq 50$  parts per million (ppm), or PCBs  $< 50$  ppm that were originally  $\geq 50$  ppm and subsequently diluted to levels  $< 50$  ppm, including start-up (e.g., powering up, running any oil through the equipment) of Hydrodec's PCB treatment system, preparation of PCB-containing oil feed, and decontamination of Hydrodec's PCB treatment system and supporting components once treatment is terminated.

"Operator" means Hydrodec of North America, LLC, 2021 Steinway Boulevard SE, Canton, Ohio 44707, which operates the PCB alternative treatment technology and storage facility.

"Owner" means (a) Hydrodec, Inc. with 57.35% ownership and (b) G&S Oil Recycling, LLC with 42.64% ownership.

"PCB" means polychlorinated biphenyls as defined in § 761.3.

"PCB treatment system" means the catalytic hydrogenation system known as Plant 3, including Reactors 3-RA-113 and 3-RA-123 at the Canton, Ohio facility, as demonstrated on the week of September 19, 2016.

"Process waste" means wastes generated by Hydrodec's PCB treatment system.

"RCRA" means Resource Conservation and Recovery Act.

"Region 5" means the EPA region headquartered in Chicago, Illinois, serving Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin, and 35 Tribes.

"Regional PCB Coordinator" means the contact listed on the following website for EPA Region 5: <https://www.epa.gov/pcbs/program-contacts>.

"Site" has the same definition as "Facility."

“Spill” has the same meaning as "Spill" as defined in the EPA's PCB Spill Cleanup Policy in § 761.123.

“Total PCBs” means the sum of detected PCB concentrations quantified using EPA Method 8082A, 680, 608, or ASTM D4059.

“Year” means any 365 consecutive days except in the occurrence of a leap year, which contains 366 days. The year does not necessarily begin on January 1st.

Hydrodec of North America, LLC  
Canton, Ohio

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Appendices

- I. Background
- II. Process Description and Findings
- III. Summary of Demonstration Test Results

DRAFT



CONDITIONS OF APPROVAL

Per § 761.60(e), this approval waives otherwise applicable requirements of § 761.60(a) and § 761.70. This approval may reference additional requirements of 40 CFR part 761 but Hydrodec should not rely solely on this approval for all requirements related to PCBs or the storage or disposal of PCB waste. In the event that the information contained in the Application or other supporting documents differs from the conditions specified in this document, the conditions of this document shall govern.

1. Feedstock Restrictions

- a) Hydrodec shall only treat mineral oil dielectric fluid (MODEF), referred to in this approval as oil. Hydrodec shall not treat motor oil.
- b) Hydrodec may feed PCB-containing oil into the PCB treatment system in concentrations no greater than 675 ppm<sup>2</sup>.
- c) Hydrodec may dilute PCB-containing oil with non-regulated (PCBs < 50 ppm) oil to reduce the concentration to between 50 ppm and 675 ppm. Hydrodec may not dilute PCB-containing oil of any concentration to below 50 ppm. This does not preclude Hydrodec from treating, without diluting, PCB-regulated oil with concentrations below 50 ppm as a result of dilution prior to arrival at Hydrodec.
- d) Prior to treatment, Hydrodec shall characterize the feedstock for PCBs (Aroclor type and concentration) using EPA Method 8082A (SW-846) or ASTM D4059. The feedstock shall be sampled and analyzed by gas chromatography in accordance with the procedures described in Hydrodec's application.
- e) Whenever PCB-containing oil is handled in containers outside of the hydro-treatment reactor, the containers must be clearly labeled in accordance with 40 CFR 761 subpart C so as to distinguish them from treated product containers.
- f) Hydrodec may propose a modification to conditions 1(b) or 1(c) in the future, should it successfully demonstrate to EPA through an approved demonstration test that Hydrodec's PCB treatment system is capable of treating higher concentrations of PCBs. Authorized EPA representatives must witness the demonstration and obtain split samples for verification of analytical results.

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<sup>2</sup> According to EPA's laboratory results, Hydrodec demonstrated treatment with 650 ppm feedstock. Hydrodec measured the concentration of the feedstock as 680 ppm in their laboratory. Based on the demonstration test performance and in consideration of the acceptable range in PCB testing, EPA has confidence that treating feedstock up to 675 ppm will present no unreasonable risk of injury to health or the environment.

## 2. Operating Condition Restrictions

Operation of the PCB treatment system shall be subject to the conditions of this approval and shall be consistent with the procedures and specifications included in Hydrodec's application dated June 16, 2017.

### a) Treatment Unit Shutdown

- 1) The PCB treatment system shall be immediately and automatically shut down under any process conditions that would present an unreasonable risk to personnel, facility, or the environment, such as a loss of system pressure greater than 100 kPa per minute.

After an automatic shutdown, Hydrodec shall take corrective measures to prevent further occurrences of unreasonable risk before resuming operations. If automatic shutdowns of the PCB treatment system occur more than three (3) times within a year, as defined in the definitions section of this document, Hydrodec shall follow the requirements in Condition 5. Any one (1) occurrence counts towards the three (3).

- 2) Hydrodec shall immediately switch the PCB treatment system to unregulated oil (< 50 ppm) upon failure of the monitoring and/or recording equipment for the parameters specified in Condition 8(a) or failure of the PCB treatment system to operate within the operating parameters listed in Condition 2(b) for more than five (5) minutes. After such a switch is triggered, Hydrodec shall not resume treatment operations until the equipment is repaired or replaced with functional equipment. All effluent oil must be captured and tested.
- 3) Hydrodec shall immediately switch the PCB treatment system to treating unregulated oil (< 50 ppm) for a period of two hours or one residence time, whichever is greater, after completing normal PCB treatment in order to flush the system. During this period, all conditions of this approval must be followed as if the unregulated oil were TSCA-regulated PCB oil. Only after this period of flushing may the PCB treatment system be completely shut down under normal operations.

### b) Operating Parameters

Hydrodec shall operate the PCB treatment system as a continuous flow through process in accordance with the parameter limits specified in this condition (which were demonstrated during the week of September 19, 2016). The values for the parameters listed in this condition must be based on a rolling 60-second average and be recorded every 60 seconds during operations of the PCB treatment system:

- 1) Reactor temperature shall be no less than 285°C during PCB treatment.

- 2) Reactor feed oil flow rate shall be no greater than 700 kg/hr.
- 3) Reactor outlet pressure shall be between 3250 and 3590 kPa.
- 4) Scavenger feed rate shall be no less than 2 kg/hr.
- 5) Quench water flow rate shall be no less than 50 kg/hr.

### 3. Sampling Plan

Hydrodec shall collect samples of treated oil in accordance with Condition 4(a). In all other aspects of sampling, Hydrodec shall follow the sampling plan in the submitted application to ensure compliance with all conditions of this approval.

### 4. Treatment Verification and Disposal of Oil That Could Not Be Adequately Treated

- a) Hydrodec shall take representative samples after the treated oil passes through the reactor but before the oil passes into the bulk tank at three-hour intervals for the first twelve hours and at eight hour intervals thereafter for each batch and analyze the samples by EPA Method 8082A (SW-846) or ASTM D4059 for the concentration of PCBs in accordance with the procedures described in Hydrodec's application. The first sample and every tenth sample thereafter should be analyzed for both Aroclors and all homologs. PCBs as homologs must be analyzed by an approved EPA method such as Method 680 or 1668b. In addition, EPA Method 8082A indicates that this method may be used for a "total PCB" analysis. Hydrodec may develop a method for total PCBs as total congeners or total homologs by Method 8082A and would need to apply for an Approval modification in order to use the developed method instead of EPA Method 680 or 1668b under this Approval.

A minimum of one treatment verification sample must be collected for each batch. If a batch is less than 3 hours long, a treated oil sample must be collected after a period of at least one residence time of the PCB-containing oil in the PCB treatment system.

- b) If the concentration of PCBs in the treated oil is  $\geq 2$  ppm PCBs after the initial treatment, Hydrodec shall either:
  - 1) Repeat treatment of the treated oil in the PCB treatment system until the concentration of PCBs in the treated oil is  $< 2$  ppm PCBs or the treatment has been repeated three (3) times, whichever occurs first; or,
  - 2) If Hydrodec elects to dispose of treated oil with  $\geq 2$  ppm PCBs without repeating treatment as described in Condition 4(b)(1) or if the concentration of PCBs in the treated oil is  $\geq 2$  ppm PCBs following the third repeated treatment under Condition 4(b)(1), Hydrodec must dispose of the treated oil in accordance with 40 CFR part 761, subpart D as if it contains the PCB concentration of the pre-treated feedstock oil.

The burden of ensuring proper disposal (including shipment to an appropriate disposal facility) shall be Hydrodec's.

5. Requirements Upon Repeated Failure to Achieve PCB Treatment Level of < 2 ppm

Immediately upon the third incidence of failure to achieve the required treatment level of < 2 ppm PCBs after 4 treatments (the initial treatment plus three repeat treatments) or fewer, if Hydrodec elects to dispose of treated oil  $\geq 2$  ppm PCBs without repeating treatment as described in Condition 4(b), within any year, Hydrodec shall cease operations of the PCB treatment system and shall notify the Regional PCB Coordinator by phone within three (3) business days after the third incidence of failure. Hydrodec shall also submit a written report to the Regional PCB Coordinator within seven (7) days of ceasing operations. The written report shall include information on the conditions under which the treatment failed, the likely cause(s) of the treatment failures, the final disposal location of the waste, steps being taken to improve the performance of the PCB treatment system, and the estimated time before the PCB treatment system is able to perform as specified in this approval. In such instances, the malfunctioning PCB treatment system shall not resume operation until the problem has been corrected and Hydrodec receives approval from the Director, LCD, EPA Region 5 via written or resumed correspondence to resume operation. The EPA may require a performance demonstration or submittal of appropriate data and/or information before Hydrodec may resume PCB treatment operations to confirm that the system has been fully repaired.

6. Damage to the PCB Treatment System

Hydrodec shall report any non-routine damage to the PCB treatment system (e.g. pipe rupture, hail damage) that may impact the treatment system's ability to operate in accordance with this approval within two (2) business days following the date of damage by phone to the PCB Regional Coordinator. Regular maintenance and repair of consumable system components (e.g. pump seals, compressor diaphragm) is not included in this condition. Within five (5) business days following the date of damage, Hydrodec shall submit a written report that addresses such non-routine damage to the PCB Regional Coordinator. The written report shall include information on the incident causing the damage, the cause(s) of the incident, steps being taken to repair the system, and the estimated time before the system is able to perform as specified in this approval. Hydrodec shall receive approval from the Director, LCD, EPA Region 5 via written or emailed correspondence before resuming any PCB treatment operations. The EPA may require a performance demonstration or submittal of appropriate data and/or information before Hydrodec may resume PCB treatment operations to confirm that the system has been fully repaired.

7. Process Waste Disposal and Handling Requirements

- a) Hydrodec shall sample and analyze any non-liquid and non-aqueous liquid process wastes generated by the operation of the PCB treatment system. Hydrodec shall dispose of non-liquid and non-aqueous liquid process wastes with PCB concentrations of  $\geq 2$  ppm PCBs (e.g., sludge, spent catalyst, and disposable personal protective equipment) as if it

contained the PCB concentration of the pre-treated feedstock (see § 761.50 for disposal options).

Hydrodec may dispose of non-liquid and non-aqueous liquid process wastes generated by the PCB treatment system with concentrations  $< 2$  ppm as non-regulated PCB materials for purposes of 40 CFR part 761, but final disposition of such wastes must comply with all local, state, and federal regulations.

- b) Hydrodec shall sample and analyze any aqueous liquid process wastes.
  - 1) For aqueous liquid process wastes containing  $< 0.5$  ppb PCBs, Hydrodec may manage and dispose of these wastes as non-regulated PCB materials for purposes of 40 CFR part 761, but final disposition of such aqueous liquid process streams must comply with all local, state, and federal regulations.
  - 2) For aqueous liquid process wastes containing between  $\geq 0.5$  ppb and  $< 3$  ppb, Hydrodec shall dispose of these wastes in compliance with § 761.50(a)(3). For aqueous liquid process wastes containing  $\geq 3$  ppb, Hydrodec shall dispose of these wastes in accordance with §§ 761.50(a)(3) and 761.60(a) or decontaminate them in accordance with § 761.79.
- c) Hydrodec shall comply with the labeling and marking requirements for storage, holding, and process tanks (PCB Containers) at §§ 761.40 and 761.45 for all aqueous liquid process wastes which contain PCB levels  $\geq 0.5$  ppb and for non-liquid and non-aqueous liquid process wastes that contain PCB levels  $\geq 2$  ppm.

#### 8. Monitoring, Recordkeeping, and Reporting Requirements

- a) Hydrodec shall monitor, record, and maintain the following PCB treatment system operating parameters and information:
  - 1) Quantity of contaminated oil treated for each treatment batch;
  - 2) Concentration of PCBs in the contaminated feed oil before and after blending (if applicable) for each treatment batch;
  - 3) Amount of non-regulated oil used in each treatment batch;
  - 4) Post-treatment concentrations of PCBs in the treated oil for each treatment batch;
  - 5) A rolling 60-second average of each of the operating parameters listed in Condition 2(b) in Hydrodec's PCB treatment system during each treatment batch beginning before treatment is started, and ending when the tanks have been flushed;



- 6) Estimated quantity of PCB-regulated wastes generated at each batch, including treated oil that could not be successfully treated to achieve levels below 2 ppm PCBs;
  - 7) Identification of facilities used to dispose of the PCB wastes listed in Condition 8(a)(6), and method of disposal;
  - 8) Date, time, and duration of treatment batches;
  - 9) A copy of the raw data, gas chromatograms, and final results from the tests required by Conditions 1, 4, and 7;
  - 10) A summary of the total volume of PCB-containing oil treated by the PCB treatment system during the previous year; and,
  - 11) Any and all reports required by Conditions 5, 6, and 10.
- b) Hydrodec shall develop, compile, and maintain the records in Condition 8(a) in a paper or electronic log. Hydrodec shall maintain the records for all ongoing and past PCB treatment batches conducted in the previous five (5) years and make the records available for inspection by authorized representatives of the EPA upon request.
  - c) If Hydrodec initiates and completes closure of the PCB treatment system while this approval is in force or if the approval expires, Hydrodec shall electronically submit all records to the Regional Administrator, care of (c/o) Regional PCB Coordinator, within 90 calendar days of certifying closure or the expiration, whichever comes first.
  - d) Hydrodec shall maintain annual records on the disposition of all PCBs stored at the facility or treated by the PCB treatment system and submit them annually to the Regional Administrator, c/o Regional PCB Coordinator, in compliance with § 761.180(b).
9. Notification of Operations
- a) In accordance with §761.60(f), Hydrodec shall give the following written notices to the state and local governments within whose jurisdiction its facility is located:
    - 1) Notice at least thirty (30) days before a facility is first used for disposal of PCBs required by the TSCA regulations; and
    - 2) At the request of any state or local government, annual notice of the quantities and general description of PCBs disposed of during the year. This annual notice shall be given no more than thirty (30) days after the end of the year covered.
  - b) Hydrodec shall provide an annual, non-confidential written notification to the local fire departments and other applicable local emergency response authorities in the jurisdiction where the facility is located. These written notifications shall specify the following

information: Company Identification: address, telephone number and brief description of the Canton, Ohio facility where PCB treatment system is located;

- 1) Personnel Identification: Hydrodec contact name(s), email address(es), and telephone number(s) of personnel who are responsible for oversight of the PCB treatment operations at the facility and the emergency coordinator responsible for handling emergencies
- 2) The number to a phone that the operator(s) have access to and that is located near the PCB treatment system in the facility;
- 3) Description of the nature of the PCB treatment activity, including estimates of the amount and concentration of PCB-containing oil that would be treated on an average day;
- 4) Safety Data Sheets (SDS) for the principal chemicals in the treatment unit, and/or to be treated in the treatment unit (including PCBs, catalyst, and any other chemicals, if applicable);
- 5) The approximate quantities of principal chemicals in each treatment unit, and/or to be treated in the treatment unit; and
- 6) General location of Hydrodec's PCB treatment system and PCB storage tanks within the facility.

#### 10. PCB Spills

In the event Hydrodec believes, or has reason to believe, that a spill (as defined in the EPA's PCB Spill Cleanup Policy in § 761.123) of PCBs has, or may have, occurred from any activities or devices related to Hydrodec's PCB treatment system or from approved PCB storage units and their connecting equipment (e.g., containers, forklifts), Hydrodec shall notify the Regional PCB Coordinator by phone immediately after initial response actions have been taken to ensure the protection of human health and the environment. Hydrodec shall control and clean up any spills of PCBs or other fluids as provided in the Spill Prevention, Control and Countermeasure Plan included in Hydrodec's application. Furthermore, if, during the term of this approval, there is a spill or release of the equivalent of one pound or more by weight of PCBs, Hydrodec must notify the National Response Center (NRC) at (800) 424-8802 immediately. In addition, Hydrodec must notify the State Emergency Response Commission (SERC) and the Local Emergency Planning Committee (LEPC).

In addition, Hydrodec shall submit a written report to the Regional PCB Coordinator no later than 15 business days after the spill occurred that describes the: a) spill; b) known or suspected cause(s) of the spill; c) operations that were being conducted prior to, and during, the spill; d) cleanup actions conducted; and e) changes in operations that Hydrodec

implemented or will implement to prevent such spills from occurring in the future. Hydrodec may submit the report specified by Condition 11(g) in place of the spill report described in this condition.

Hydrodec shall not feed any PCB material into Hydrodec's PCB treatment system after a spill has occurred until the cause of the spill has been determined and corrected to the satisfaction of the EPA. Hydrodec shall not resume PCB treatment operations until written or emailed approval is received from the Director, LCD, EPA Region 5.

Hydrodec shall also report PCB spills in accordance with applicable federal, state, and local requirements.

#### 11. Health and Safety

- a) Hydrodec shall maintain and operate its PCB treatment system in a way that minimizes the possibility of a fire, explosion or any unauthorized release of PCBs to air, soil or surface water which may present an unreasonable risk of injury to human health or the environment.
- b) Hydrodec shall take all necessary precautionary measures to ensure the operations of the PCB treatment system are in compliance with applicable health and safety standards, as required by this approval and other applicable federal, state and local laws, regulations and ordinances. Hydrodec shall report by phone to the Regional PCB Coordinator by the end of the business day immediately following any incident that resulted in any lost-time injury occurring as a result of Hydrodec's PCB treatment equipment or operations. Hydrodec shall submit a written report describing the incident to the Regional PCB Coordinator within five (5) business days following the incident.
- c) At all times, the operators of the PCB treatment system shall have immediately accessible a device such a telephone or a hand-held two-way radio, capable of summoning emergency assistance from local fire departments, police departments, or state or local emergency response teams.
- d) Hydrodec shall test and maintain (to the extent necessary to assure proper operation in time of emergency) all facility communications or alarm systems, fire protection equipment and spill control equipment.
- e) Safety Plan

Before storing or treating any PCB-containing oil, Hydrodec shall develop and maintain at the facility a safety plan for the activities covered by this approval. At a minimum, Hydrodec shall include the following information in the safety plan:

- 1) Scope of work (description of the treatment process, maximum volume of contaminated oil that might be found at any given time within Hydrodec's PCB



treatment system or in associated storage containers, and any hazardous materials to be used in the treatment process);

- 2) Project personnel, including roles, responsibilities and qualifications, name of on-site safety manager, and name(s) of any on-site cardiopulmonary resuscitation (CPR)/First-Aid certified person(s);
- 3) Emergency contact information, including local authorities (e.g., local fire and police departments) and nearest medical facility that would accept patients contaminated with chemicals;
- 4) Hazard identification (e.g., potential for reactions/fires) and control/mitigation measures;
- 5) Names of all chemicals used or stored at the facility along with approximate quantities and the corresponding safety data sheets (SDS);
- 6) Emergency action plan(s) specifying the following:
  - A. Contact information – facility management, and the emergency coordinator responsible for handling emergencies (with 24-hour a day contact in the event of an emergency), including both phone numbers and email addresses;
  - B. Evacuation plan(s);
  - C. First aid location(s);
  - D. Eye-wash station location(s);
  - E. Fire extinguisher location(s);
  - F. Location of SDS;
  - G. Flammable storage area(s); and
  - H. Smoking/non-smoking areas.

Hydrodec shall submit a copy of the safety plan to the Regional PCB Coordinator or the Director, LCD, EPA Region 5 upon request. Hydrodec shall immediately revise the safety plan if any of the relevant information in this approval or the safety plan itself changes.

f) Emergency Coordinator

Hydrodec shall, at all times, have at least one designated employee either at the operating site premises or on call (i.e., available to respond to an emergency by reaching the

operating site within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of Hydrodec's safety plan, operations and activities at the site, the location and characteristics of waste handled, and the facility layout, including the hazards associated with the facility's non-PCB operations.

g) Emergency Procedures

- 1) Whenever there is an imminent or actual release of PCBs to air, soil, or surface water or an incident that results or may result in injury to health or the environment ("emergency incident"), for example from fire, spill, or explosion, the emergency coordinator (or his/her designee when the emergency coordinator is on call) shall immediately:
  - A. Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and
  - B. Notify appropriate Federal, State and/or local emergency response entities (e.g., fire departments).
- 2) Whenever there is an emergency incident, the emergency coordinator shall as soon as practical identify the character, exact source, amount, and real extent of any released materials. The emergency coordinator shall also assess possible hazards to health or the environment that may result from the emergency incident. This assessment shall consider both direct and indirect effects of the emergency incident (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any PCB surface water run-off from water or chemical agents used to control fire and heat-induced explosions).
- 3) If the emergency coordinator determines that the PCB treatment system or a PCB approved storage unit has had an emergency incident which presents or may present an unreasonable risk of injury to health or the environment outside the site or facility, he/she must report the findings as follows:
  - A. If the assessment indicates that evacuation of local areas may be advisable, the emergency coordinator shall immediately notify appropriate local authorities; and
  - B. The emergency coordinator shall immediately notify either the government official designated as the on-scene coordinator for that geographical area, the NRC (using their 24-hour toll free number 1-800-424-8802), the SERC, and the LEPC. The notification must include:
    - i. Name and telephone number of reporter;

- ii. Name and address of facility;
  - iii. Time and type of emergency incident (e.g., release, fire);
  - iv. Name and quantity of material(s) involved, to the extent known;
  - v. The extent of injuries, if any; and
  - vi. The possible hazards to human health, or the environment, outside the facility.
- 4) During an emergency incident, the emergency coordinator shall take all reasonable measures necessary to ensure that emergency incidents do not occur, recur, or spread to other PCB waste at the operating site or PCB approved storage area. These measures must include, where applicable and when possible, safely shutting down the PCB treatment system, collecting and containing released waste, removing or isolating containers and equipment, and other measures that can be implemented to protect health and the environment.
- 5) During an emergency incident, the emergency coordinator shall assess if any non-PCB facility operations/processes need to be suspended or if any immediate measures should be taken to minimize the risk of injury (e.g. from the release of toxics or the spread of fire) that could occur due to the nature of facility operations and chemicals/products stored at the facility.
- 6) Immediately after an emergency incident has been contained, Hydrodec shall provide for treating, storing, and/or disposing of recovered waste, contaminated soil or surface water, or any other material that results from the emergency incident at the facility.
- 7) Hydrodec shall notify the Regional PCB Coordinator and the EPA Region 5 Emergency Response Section at (312) 353-2318 of the emergency incident by phone immediately after initial response actions have been taken to ensure the protection of human health and the environment.
- 8) Hydrodec shall submit a written report to the EPA Regional PCB Coordinator, the EPA Region 5 Emergency Response Section, SERC, and LEPC no later than 15 business days after the emergency incident occurred that describes the: a) incident; b) cause(s) of the incident, c) operations that were being conducted prior to, and during, the emergency incident; d) cleanup actions conducted; and e) changes in operations that Hydrodec implemented or will implement to prevent such emergency incidents from occurring in the future.
- 9) Hydrodec shall not feed any PCB material into the PCB treatment system or store any additional commercial PCB waste until the cause of the emergency incident has been determined and corrected to the satisfaction of the EPA. Hydrodec shall not resume PCB treatment operations until written or emailed approval is received from the Director, LCD, EPA Region 5.

10) Hydrodec shall also report emergency incidents in accordance with applicable federal, state, and local requirements.

h) Fire Suppression System

The building containing Hydrodec's PCB treatment system must have adequate fire suppression capabilities (e.g., sprinkler, standpipe or other specialized system). Separate and distinct fire suppression systems may be necessary based on the location of Hydrodec's PCB treatment system relative to the location of the other chemicals in the building and based on the compatibility of the fire suppression system with the fire risk that is being mitigated in that particular area. It is the responsibility of Hydrodec to evaluate whether the fire suppression system is appropriate to address the specific hazards based on the design and location of Hydrodec's PCB treatment system at the facility. The building containing Hydrodec's PCB treatment system shall be in compliance with applicable federal, state, and/or local fire suppression requirements.

i) Fire Detection System

Hydrodec shall have and maintain an active (24 hours/day) fire detection system (such as smoke alarms) that immediately notifies facility workers, occupants, facility emergency responders (whether they are on-site or off-site), and local emergency responders (e.g., fire department) of a fire emergency at or near the PCB treatment system.

j) Fire Extinguishers

Hydrodec shall maintain and clearly label fire extinguishers and other firefighting equipment that are capable of suppressing fires that may be associated with Hydrodec's PCB treatment system and PCB approved storage units. Labeling shall be based on the compatibility of the extinguisher or equipment with the fire hazard. Adequate fire extinguishers and equipment shall be available at the PCB treatment system. Multiple types of fire extinguishers and firefighting equipment may be necessary to address different fire hazards posed by Hydrodec's PCB treatment system and the wastes that it treats. All fire extinguishers shall have the following:

- 1) Annual inspection tag;
- 2) A gauge indicating fully charged;
- 3) Pin with security seal; and
- 4) Instructions on how to use.

12. Security

Hydrodec shall ensure its PCB treatment system and PCB approved storage units are secure (e.g., with a fence, alarm system, signage) such that only those individuals authorized to conduct operations and approved visitors can access those areas regardless of whether the PCB treatment system is operating.

13. Notifications and Reports

Notifications or reports required to be mailed to the Regional Administrator, c/o Regional PCB Coordinator; Director, LCD; or the Regional PCB Coordinator shall be mailed to: Ralph Metcalfe Federal Building, 77 West Jackson Blvd., Chicago, IL 60604-3590. For electronic submission, contact the Regional PCB Coordinator for the correct email address. Email is preferable to phone and mail communication unless otherwise specified in this approval.

Up to date contact information for the EPA Regional PCB Coordinators can be found on the following website: <https://www.epa.gov/pcbs/program-contacts>.

Before treating PCB-containing oil in the PCB treatment system, Hydrodec shall post this approval document prominently on its website where visitors would reasonably expect to see announcements on environmental projects. The approval shall remain posted until 60 days after:

- a) This approval is terminated and permanent closure has been completed in accordance with Condition 17;
- b) This approval expires (provided Hydrodec has not followed the procedures described in Condition 22 to allow the approval to continue in force); or
- c) The PCB treatment system is closed in accordance with Condition 17.

14. Agency Approvals/Permits:

Operation of Hydrodec's PCB treatment system and storage of commercial PCB waste may not commence until Hydrodec and/or the facility has obtained all required approvals/permits from federal, state, and local government entities and must immediately cease if Hydrodec fails to properly maintain or renew any required approval/permit.

15. Personnel Training

Hydrodec shall ensure that personnel directly involved with the operation of the PCB treatment system and storage of commercial PCB waste are familiar with the requirements of this approval.

- a) In this regard, Hydrodec shall keep copies of the following documents on-site at all times:
- 1) This operating approval;
  - 2) Hydrodec's operating approval application;
  - 3) Hydrodec's demonstration test approval request and associated demonstration test authorization issued by the EPA;
  - 4) The Spill Prevention, Control and Countermeasure Plan; and
  - 5) Hydrodec's sampling and analytical procedures.
- b) Hydrodec shall also provide a copy of the sampling and analytical procedures to the laboratory conducting the analyses. At a minimum, Hydrodec shall train appropriate personnel on the following:
- 1) The restrictions on oil which may be treated using Hydrodec's PCB treatment system listed in Condition 1;
  - 2) The recordkeeping, notification and reporting requirements identified in Condition 8 required by this approval, and the location of records and retention times;
  - 3) The handling and disposal requirements as described in Conditions 4, 5, and 7 for process waste and other materials generated during the operation of Hydrodec's PCB treatment system;
  - 4) The safety, operating, and maintenance procedures listed in this approval;
  - 5) The procedures for using, inspecting, repairing, and replacing Hydrodec's emergency and monitoring equipment, with an emphasis on the fire suppression equipment; and
  - 6) The Spill Prevention, Control and Countermeasure Plan.



16. Storage of PCBsa) Approved PCB Storage Areas

Hydrodec is authorized to store PCB contaminated oil in dedicated PCB oil storage tanks and PCB contaminated oil and wastes in drums, at or below the capacity limits specified below. The capacity represents the total commercial waste storage limits for PCBs.

PCB Storage Areas	PCBs Stored	PCB Containers	Capacity (gallons)
Dike C (PCB Building)	PCB Oil	2 8,200-gallon tanks (P-TK-734 and P-TK-735)	16,400
Building A	PCB Contaminated Oil and Waste	16 55-gallon drums	880

**Total liquid storage = 17,280 gallons**

Hydrodec is authorized to store PCB-containing oil in the following process tanks and containers.

- One (1) 500-gallon blend tank (TK-785)
- One (1) 350-gallon feed tank (TK-005)
- One (1) 50-gallon oil/water separator (VE-784)

Process tank TK-005 shall be part of the PCB treatment system flush described in Condition 2(a)(3).

Process tank TK-785 and oil/water separator VE-784 shall be dedicated to the treatment of PCB-containing oil.

b) Transfer/Transit Areas

In accordance with the definition of *transfer facility* at § 761.3, Hydrodec shall store PCBs in vehicles in transportation areas (such as a roadway or parking area) at the Hydrodec facility for no more than 10 days from the date of its receipt.

c) Design Requirements of Storage Areas

The PCB container/tank storage units shall be maintained in accordance with the specifications in Hydrodec's Application and shall meet the requirements at § 761.65.

Hydrodec's facility shall meet the following storage criteria in accordance with § 761.65(b)(1):

- 1) Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB Items;

- 2) An adequate floor that has continuous curbing with a minimum 6-inch-high curb. The floor and curbing must provide a containment volume equal to at least two times the internal volume of the largest PCB Article or PCB Container or 25 % of the total internal volume of all PCB Articles or PCB Containers stored at the facility, whichever is greater;
- 3) No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area;
- 4) Floors and curbing constructed of Portland cement, concrete, or a continuous, smooth, non-porous surface (as defined in § 761.3), which prevents or minimizes the penetration of PCBs;
- 5) Not located at a site that is below the 100-year flood water elevation.
- 6) Hydrodec's tank storage areas shall meet the following storage criteria in accordance with § 761.65(c)(7):
  - i. The tanks shall be designed, constructed, and operated in compliance with Occupational Safety and Health Standards, 29 CFR 1910.106, Flammable and combustible liquids;
  - ii. A Spill Prevention Control and Countermeasure (SPCC) Plan as described in 40 CFR Part 112 shall be prepared and implemented.

d) Types of PCB Storage Allowed

Hydrodec is authorized to store PCBs in container storage units and in tank units, as specified in Condition 16(a). These units must meet the requirements of § 761.65(c)(6). Stationary storage containers for liquid PCBs can be larger than the containers specified in § 761.65(c)(6) provided they meet the requirements of § 761.65(c)(7).

Additionally, any container used to store or treat PCB waste that contains  $\geq 50$  ppm PCBs shall be decontaminated in accordance with § 761.79.

e) Marking and Dating Requirements

- 1) The approved PCB storage areas identified in Condition 16(a), shall be marked as required in § 761.40(a)(10).
- 2) PCB containers/tanks holding waste containing PCBs at concentrations of  $\geq 50$  ppm shall be marked as required by § 761.40(a)(1).
- 3) PCB containers/tanks shall be dated in accordance with § 761.65(c)(8). PCB waste storage areas shall be managed so that the PCB Item can be located by the removal from service date or by the Item's unique tracking number.
- 4) For PCB waste storage tanks identified in Condition 16(a), Hydrodec shall comply



with the recordkeeping requirements of § 761.65(c)(8).

f) Aisle Space Requirement and Row Width Limits

Adequate aisle space within the container/tank storage units must be maintained at all times to allow access for purposes of inspection and spill response for leaking containers.

Containers stored on pallets in the container storage units shall be stored in rows no more than one pallet wide when using a standard pallet size of 48"x 48" leaving a minimum 24-inch aisle between the rows and between the rows and walls.

g) Container Stacking and Pallet Use

Containers shall be stacked subject to the following limitations:

- 1) Hydrodec may stack pallets of drums containing PCBs.
- 2) Pallets of drums shall not be stacked more than three-high. If PCB drums are stacked three high, the containers of each layer must be secured by banding them together (shrink-wrapping).
- 3) A maximum of four drums will be stored on a pallet. The bottom pallet shall always contain four drums before a second level of drums and pallet are added in order to provide a stable base.
- 4) If any PCB containers are placed on a pallet, they shall be within the pallet edges.

h) Management of PCB Containers/Tanks in Storage

PCB containers/tanks shall always be closed during storage, except when adding or removing their contents, and must not be opened, handled or stored in a manner which may damage them or cause leakage.

PCB containers/tanks shall be stored so that required PCB labels, dates of removal from service, and other identification information can be easily read by any inspector.

i) Moveable equipment

- 1) Pursuant to § 761.65(c)(4), except as provided below, sampling equipment, tools, and moveable equipment used for handling PCB waste in a PCB container/tank storage area that comes in direct contact with PCB waste shall not be removed from that container/tank storage area unless it has been decontaminated in accordance with § 761.79.
- 2) Sampling equipment, tools and moveable equipment used for handling PCBs in one storage area may be transferred to and used in another PCB storage area at the Hydrodec facility without prior decontamination, provided the equipment is containerized during the transfer or other appropriate measures are taken to prevent

the spread of PCB contamination and exposure to unprotected personnel en route between the two storage areas.

j) Inspection Requirements

All PCB containers stored within the PCB container storage units and all PCB storage tanks shall be checked for leaks at least once every 30 days. Any leaking PCB container and its contents shall be transferred immediately to properly marked, non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up and the contaminated materials and residues containing PCBs shall be disposed of in accordance with § 761.61. Records of inspections, maintenance, cleanup and disposal must be maintained in accordance with §§ 761.180(a) and (b).

The condition of floor, joints and curbing in each of the approved PCB container storage units and storage tank enclosures shall be inspected at least once every 30 days. Any needed repairs noted during such inspections shall be made in a timeframe sufficient to prevent any spills from being released from the containment area, but no longer than 30 days from the date of the inspection, unless a longer repair period is authorized by the Director of LCD, EPA Region 5.

k) Dilution Prohibitions

In the event that non-PCB oil is mixed at Hydrodec's facility with PCB oil at any concentration  $\geq 2$  ppm, the resulting oil (for purposes of waste classification/designation) will be classified at the highest concentration of the PCB oil introduced into the container/tank. Similarly, for purposes of waste classification/designation, the concentration in a container/tank is determined by the highest concentration of PCB oil added to it.

l) Recordkeeping and Reporting

Hydrodec shall conduct all storage recordkeeping and reporting requirements required in Condition 8.

17. Closure Cost Estimate and Plan, Financial Assurance, and Permanent Closure

a) Closure Cost Estimate and Plan

- 1) Prior to issuance of this approval, Hydrodec submitted to EPA Region 5 a written closure plan and closure cost estimate that identified the steps and quantified the estimated costs for the activities Hydrodec shall conduct to permanently close the PCB treatment system and approved PCB storage areas. The provisions of § 761.65(e)(4)-(8) and (f)(2)-(4) shall apply to closure, except as otherwise provided in the Conditions of this approval.

- 2) The EPA may require Hydrodec to adjust the closure plan or closure cost estimate to ensure no unreasonable risk of injury to health or environment.

b) Financial Assurance

- 1) Financial assurance shall be obtained by Hydrodec and submitted to the Regional Administrator, care of (c/o) Regional PCB Coordinator 30 days prior to commencing PCB treatment operations and maintained until closure activities have been completed. Hydrodec shall apply the financial assurance requirements in § 761.65(g) for commercial storage facilities to its PCB treatment system and approved storage areas and comply with such financial assurance requirements. Hydrodec shall not operate its PCB treatment system or approved storage areas without the necessary financial assurance. § 761.65(g) references the financial assurance mechanisms specified in 40 CFR part 264 subpart H of the Resource Conservation and Recovery Act regulations. Hydrodec may choose any of the financial assurance mechanisms or combination of mechanisms provided for in § 761.65(g). The EPA may require variations in the wording of the instruments from that found at § 264.151.
- 2) Hydrodec shall provide evidence of the increased value of the financial assurance mechanism whenever necessary (e.g. annual inflation adjustment, change in closure cost estimate triggered by modification of closure plan) as required in § 264.143, which is incorporated by reference in § 761.65(g).
- 3) Hydrodec shall also obtain financial assurance for the compensation of third parties for bodily injury and property damage caused by sudden and non-sudden accidental occurrences from, or related to, Hydrodec's PCB treatment system and storage operations by complying with the RCRA regulations that address third-party financial assurance liability requirements (i.e., § 264.147).
- 4) Hydrodec shall maintain financial assurance until completion of closure and written notification from EPA releasing Hydrodec from maintaining financial assurance in accordance with § 761.65(h).

c) Change to Closure Plan, Closure Cost Estimate, or Financial Assurance Mechanism

If Hydrodec wishes to change the closure plan, closure cost estimate, or financial assurance mechanisms due to factors other than inflation, Hydrodec shall submit an adjusted plan, cost estimate, or financial assurance mechanism (as applicable) to the Regional Administrator, c/o Regional PCB Coordinator. EPA will review the change(s) and may require Hydrodec to revise the adjusted closure plan, closure cost estimate, or financial assurance mechanism prior to approving it.

d) Permanent Closure

- 1) Failure to submit a request for renewal as described in Condition 22 will be treated as evidence of intent to close Hydrodec's PCB treatment system and approved storage

areas. If Hydrodec does not submit a request for renewal before the time specified in Condition 22, Hydrodec shall initiate closure procedures upon expiration of this approval or within 60 days of the last treatment of TSCA-regulated PCB oil by Hydrodec's PCB treatment system, whichever occurs first.

- 2) In the event that Hydrodec ceases operations of its PCB treatment system prior to the date of expiration of this Approval or any renewal granted pursuant to Condition 22, Hydrodec shall initiate closure procedures within 60 days of the last treatment of PCB-containing oil by the PCB treatment system.
- 3) Hydrodec shall notify the Regional Administrator, c/o Regional PCB Coordinator, in writing at least 60 days prior to the date on which final closure of its approved storage areas or its PCB treatment system is expected to begin (see § 761.65(e)(6)(i)).
- 4) Within 60 days of completion of closure of Hydrodec's approved storage areas or PCB treatment system, Hydrodec shall submit by registered mail a certification to the Regional Administrator, c/o Regional PCB Coordinator, that the approved storage areas or PCB treatment system has been closed in accordance with the approved closure plan (see § 761.65(e)(8)).
- 5) During the closure period, Hydrodec shall dispose of all contaminated storage and PCB treatment system components in accordance with the disposal requirements of 40 CFR 761 subpart D or decontaminate the equipment in accordance with § 761.79.
- 6) Hydrodec shall submit records to the Regional Administrator, c/o Regional PCB Coordinator, within 90 days of concluding closure as required in Condition 8(c).

#### 18. Ownership Transfer

- a) If Hydrodec intends to transfer ownership of Hydrodec's approved storage areas or PCB treatment system and the transferee wants to operate the approved storage areas or PCB treatment system under the same or similar terms as this approval, Hydrodec shall notify the Regional Administrator, c/o Regional PCB Coordinator, in writing at least 90 days before transferring ownership of Hydrodec's approved storage areas or PCB treatment system. Hydrodec shall also submit to the Regional Administrator, c/o Regional PCB Coordinator, at least 90 days before such transfer, a notarized affidavit signed by the transferee that states the transferee is seeking approval to operate approved storage areas or the PCB treatment system. Failure of Hydrodec to provide the EPA with this required written documentation of the transfer within the specified time frame would be a violation of this approval and the approval would immediately terminate upon the transfer of ownership.
- b) After receiving notification, the EPA may:
  - 1) Issue an amended operating approval substituting the transferee's name for Hydrodec's name;

- 2) Require the transferee to conduct a demonstration test and/or apply for a new PCB disposal approval by either submitting a complete application for operating approval or a partial application (e.g., that focuses on information that demonstrates the transferee has the ability to comply with the terms and conditions of this approval, such as a summary of personnel qualifications and previous trainings that are relevant to complying with the terms and conditions of this approval, or a summary of previous compliance history, if applicable); or
- 3) A combination thereof.
- c) So that there will be no lapse in financial assurance for the transferred facility, the transferee shall establish financial assurance for closure and submit it to the Regional Administrator, c/o Regional PCB Coordinator, before the approval will be amended to transfer ownership or a new approval will be issued. The transferee must select one of the financial assurance mechanisms listed in the PCB regulations at § 761.65(g). The EPA may require variations in the wording of the instruments from that found at § 264.151. The financial assurance mechanism must be effective as of the date of final approval of the transfer (i.e., the date the amended approval or a new approval is signed by the Director of LCD, EPA Region 5).
- d) The transferee shall not operate the treatment unit unless the EPA either has amended this approval to allow for such operation or has issued a new approval to the transferee.

#### 19. Process/Equipment Modifications

- a) Hydrodec shall not make major modifications (e.g., changes of engineering design, ancillary hardware, type of catalyst, process capacity, change in PCB storage areas, change in maximum PCB storage volume) to its approved storage areas or PCB treatment system prior to receiving written approval from the Director of LCD, EPA Region 5. If Hydrodec desires such major modifications, Hydrodec shall submit an approval modification request to the Director of LCD, EPA Region 5. The Director may, depending on the nature of the major modification request, require Hydrodec to conduct a demonstration test to ensure the PCB treatment system continues to be in compliance with the applicable performance standards included in this approval and to ensure the PCB treatment system continues to operate in a manner that does not present unreasonable risk of injury to health and the environment.
- b) A minor modification is defined as an administrative or informational change, correction to typographical error, change to conform with agency guidance or regulation, or any other change which does not affect overall performance or environmental impact. A minor modification to this approval or the final application shall be made only after written concurrence by the RCRA/TSCA Section Chief, EPA, Region 5.



20. Unit Operators

Operation of Hydrodec's PCB treatment system shall be managed and overseen by a qualified Hydrodec employee during all times the PCB treatment system is operated.

21. Approval Expiration Date

This approval shall become effective upon signature of the Director of LCD, EPA Region 5 and expire five (5) years from the date the approval becomes effective, except as otherwise specified in Condition 22.

22. Approval Continuation and Renewal

If Hydrodec intends to continue to operate beyond the expiration date of this approval, Hydrodec shall submit a complete approval renewal application to the Regional Administrator, c/o Regional PCB Coordinator, at least 180 days prior to the expiration date of this approval. Upon submission of a complete approval renewal application, EPA will inform Hydrodec if a demonstration test plan will be required. The demonstration test plan must be submitted at least 90 days prior to the expiration date of this approval. A successful demonstration test must be conducted and a demonstration test report submitted to EPA within five years after the expiration date of the approval. If Hydrodec submits this information to the Regional Administrator, c/o Regional PCB Coordinator, in accordance with the stated deadlines, this approval continues in force (i.e., does not expire) until the EPA issues an approval renewal, a conditional approval renewal, or an approval request denial. Hydrodec shall not operate under revised operating conditions until the EPA issues Hydrodec a fully renewed, and revised, operating approval. If Hydrodec does not submit a complete approval renewal application and, if required, a complete demonstration test plan to the Regional Administrator in accordance with the deadlines established in this Condition, this approval will expire as specified in Condition 21.

A complete approval renewal application and complete demonstration test plan are considered to be, at a minimum, information that was submitted in previously approved operating approval requests and demonstration test plans, with appropriate modifications or updates based on proposed revisions to the original approval, which may include treatment unit design and operation changes, updated safety protocols, and revised operating and testing procedures. For example, if Hydrodec is seeking approval to treat another type of PCB material or oil containing concentrations of PCBs  $\geq 675$  ppm, the approval application and demonstration test plan shall reflect those changes.

The EPA may require Hydrodec to conduct another demonstration test to assure the EPA that Hydrodec will continue to operate its PCB treatment system in accordance with the applicable performance standards and in a manner that does not present an unreasonable risk of injury to health or the environment. As a result, Hydrodec is encouraged to contact the Regional PCB Coordinator in advance of 180 days prior to the expiration date of this approval if Hydrodec intends to renew this approval in order to ascertain whether the EPA

would require Hydrodec to conduct a new demonstration test. This is especially important if Hydrodec wants to make changes to its operating parameters (e.g., treating a different type of PCB material or treating oil with concentrations of PCBs  $\geq 675$  ppm). Under those circumstances, Hydrodec will not be allowed to operate under revised operating conditions until the EPA issues Hydrodec a fully renewed and revised operating approval.

APPROVAL

DECISION TO APPROVE HYDRODEC'S REQUEST TO CONDUCT PCB TREATMENT OPERATIONS AND COMMERCIALY STORE OIL CONTAINING PCBs

1. Approval to treat and store PCBs is hereby granted to Hydrodec of North America, LLC (Hydrodec), of Canton, Ohio, subject to the conditions expressed in this approval and consistent with the materials and data included in the application and demonstration test plan and report submitted to the EPA by Hydrodec.
2. The EPA finds that Hydrodec's PCB treatment system achieves a level of performance equivalent to a TSCA PCB incinerator and finds that, as reflected in the performance test results and as a result of the design aspects of the treatment system and the operating parameters and safety requirements included in this approval, treatment operations will not present an unreasonable risk of injury to health or the environment when operated in accordance with applicable federal PCB regulations and the conditions of this approval.
3. The EPA reserves the right to impose additional conditions or revoke this approval when it has reason to believe that Hydrodec's PCB treatment system is not achieving the relevant performance standards; continued operation of Hydrodec's approved storage areas or PCB treatment system presents an unreasonable risk of injury to health or the environment; new information requires changes; and/or the EPA issues new regulations or standards that impact necessary conditions of this approval.

The EPA will make best efforts, taking into account the nature of the risk, to provide reasonable advance notice to Hydrodec and to provide opportunity for Hydrodec to comment on any modifications to or termination of the approval. The EPA may require Hydrodec to immediately suspend operations while the EPA is deciding whether to impose approval modifications or to terminate this approval.

4. Any departure from the conditions of this approval or the terms expressed in the application must receive prior written authorization from the Director of LCD, EPA Region 5.
5. Hydrodec shall be responsible for the actions of its employees and contractors that operate or assist in the operation of its approved storage areas or PCB treatment system when those actions are related to performance of approved storage areas or the PCB treatment system, including operating or maintaining the equipment.
6. Hydrodec shall assume full responsibility for compliance with this approval and all federal, state and local requirements that apply to Hydrodec's operation of the approved storage areas and PCB treatment system, including, but not limited to, any malfunction, spill, pollutant release, incident, or other reporting requirements.



7. The EPA reserves the right for its employees or agents to inspect Hydrodec's PCB storage and treatment/disposal activities associated with the approved storage areas and PCB treatment system at any reasonable time.
8. Violation of any applicable federal PCB regulation or condition of this approval may subject to enforcement action and may result in termination of this approval. Violation of any requirement of this approval is a violation of 40 CFR 761.60(e), 761.65(d), and 761.50(a) and may also be a violation of other provisions of 40 CFR part 761. A violation of the regulations is a prohibited act under Section 15 of TSCA.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Brigid Lowery  
Acting Director  
Land and Chemicals Division  
United States Environmental Protection Agency  
Region 5

## **APPENDIX I BACKGROUND**

Hydrodec of North America, LLC (Hydrodec) provides services to customers using its proprietary Catalytic Hydrogenation System, referred to as the PCB treatment system. The PCB treatment system refines used oils and organic chemicals. The final products (from the destruction of organic contaminants) include ethane, methane, carbon dioxide, hydrogen, water, biphenyl polymers, and hydrogen chloride.

The Canton, Ohio facility receives and manages used oil and can, by catalytic hydrogenation, recycle used oils. The site has two PCB commercial storage tanks able to hold 8,200 gallons each of oils contaminated with PCBs. In addition, the PCB treatment system uses one 500-gallon blend tank, one 350-gallon feed tank, and one 50-gallon oil/water separator.

To obtain a Toxic Substance Control Act (TSCA) PCB Disposal Approval and PCB Commercial Storage Approval, Hydrodec submitted to EPA a “PCB Alternative Treatment Permit Application,” originally dated June 15, 2016, for a TSCA PCB disposal approval, as well as a “PCB Storage Permit Application,” originally dated June 15, 2016. Revision 2 of these applications are dated June 16, 2017, and are the final versions that this Approval is based on.

In September 2016, Hydrodec conducted performance demonstration tests of their PCB treatment system. Representatives of EPA observed this demonstration. Results of the demonstration are included in the Hydrodec document entitled "PCB Demonstration Test Report," dated February 15, 2017.

## APPENDIX II PROCESS DESCRIPTION AND FINDINGS

### PROCESS DESCRIPTION

Hydrodec's PCB treatment system consists of catalytic hydrogenation treatment (also known as hydro-treatment) of PCB contaminated transformer oil, the reactor effluent, and the reactor gases. Hydrodec's unit destroys PCBs from contaminated oil by liberating chlorine from the PCBs in the reactor system. Components of the PCB treatment system include the following:

- a. Feedstock oil tanks;
- b. Reactor feed heater;
- c. Catalytic hydrogenation reactor;
- d. Gas/liquid separator;
- e. Oil/water separator;
- f. Catalytic oxidizer.

#### Hydrogenation:

The PCB-containing transformer oil is collected in feedstock tanks which feed an oil surge tank. From the feed oil surge tank, the oil is introduced to the PCB treatment system. The oil is pre-heated by passing it counter-current to a hot hydrogenation reactor effluent stream in a heat exchanger. Fresh and recycled hydrogen, together with a scavenger, are then introduced. The combined flow is then heated to the reaction temperature before entering the PCB reactor which is comprised of a double packed bed of a conventional hydro-treating catalyst.

#### Reactor Effluent:

The product oil (reactor bottoms) leaving the reactor is first cooled in a heat exchanger against the incoming feed oil. The oil is then passed through a gas/liquid separator. The product oil is then washed with de-mineralized water and sent to an oil/water separator. From the oil/water separator, the product oil (which is the oil refined to less than 2 ppm PCBs) is sent to the product tank. Wastes from the separators (e.g., light oil, waters and salts) are sent to a waste tank.

#### Reactor Gas:

The reactor gases (containing excess hydrogen) are water quenched and sent to a gas/liquid separator, then to a vapor knock-out unit. The gas is then recycled to a compressor and to the reactor feed. To prevent buildup of non-condensable gases, some of the recycled gases are bled to an intermittent gas purge, and then sent to a catalytic oxidizer.

The PCB treatment system is designated as an alternate PCB disposal method or more specifically, an alternate PCB thermal disposal process, which refines the oil, destroys the PCBs in the oil, and returns the oil to an "as new" condition for reuse.

The PCB treatment system is highly automated, but many of the PCB treatment unit operating parameters can be controlled with manual safety override. In addition, a shutdown sequence may be initiated manually by the operator. An automated Emergency Shut Down System is also actively employed whenever the plant is operational.

### FINDINGS

Hydrodec's facility includes storage units intended to store oil contaminated with PCBs. As required in 40 CFR 761.65(d)(4), EPA finds Hydrodec has satisfied the requirements set forth in 40 CFR 761.65(d)(2). EPA also finds Hydrodec has met the requirements of 40 CFR 761.65(d)(3). These findings are based on the information included in Hydrodec's commercial storage application and as observed by EPA representatives at the facility.

Due to the design aspects, operating parameters, and safety measures, EPA finds that the demonstrated performance of Hydrodec's PCB treatment system is equivalent to the performance of a TSCA PCB incinerator and that the operation of the PCB treatment system and storage of PCB contaminated oil does not pose an unreasonable risk of injury to health or the environment.

## APPENDIX III

SUMMARY OF DEMONSTRATION TEST RESULTS  
FOR THE TECHNOLOGY PROCESS

PCB Demonstration Information, September 20-22, 2016

OPERATING CONDITIONS

Total volume of feed oil treated	739 gal
Total volume of blended oil treated	3715 gal

Concentration of feed oil (spiking solution)	2,792 ppm
Concentration of blended oil (average)	536 ppm

<u>Parameters</u>	<u>RUN 1</u>	<u>RUN 2</u>	<u>RUN 3</u>
Feed Oil PCB Conc, ppm (Hydrodec)	460	680	263
(EPA Lab)	439	652	199
Treated Oil PCB Conc, ppm (Hydrodec)	< 1	< 1	< 1
(EPA Lab)	< 5	< 1	< 1

	Run # 1	Run # 2	Run # 3
Date of Run	9/20/2016	9/21/2016	9/22/2016
Waste Feed Oil Flow Rate (kg/hr)	650	700	700
Total Oil Processed	1178	1269	1268
Total Concentrated PCB Feed Treated (gal)	234	255	250
Feed PCB Concentration (mg/kg)	2932	3059	2086
Feed Tank Concentration (mg/kg)	583	614	411
Reactor Average Temperature (°C)	305	305	305
Reactor Outlet Pressure (kPa)	3420	3420	3420
Set Point on Scavenger (ppm)	100	100	100
Scavenger feed rate (kg/hr)	5.6	3.7	2.3
Quench Wastewater (kg/hr)	81	65	64
Final PCB concentration (ppm)	< 1	< 1	< 1

The level of performance required for non-thermal destruction is measured differently than for thermal methods. It is the Agency's policy that non-thermal methods operating under § 761.60(e) that destroy PCBs to < 2 ppm meet an equivalent level of performance to an incinerator approved under § 761.70 or a high efficiency boiler operating in compliance with § 761.71. The Agency has determined that if this level of performance is achieved, the operation of this alternative thermal technology will not present an unreasonable risk of injury to health or the environment with respect to PCB emissions.